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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,399	09/18/2003	Michael S. Leung	P0298US-7	8955
7590 02/14/2007 Jaye G. Heybl KOPPEL, JACOBS, PATRICK & HEYBL Suite 107 555 St. Charles Drive Thousand Oaks, CA 91360			EXAMINER LE, THAO X	
			ART UNIT	PAPER NUMBER
			2814	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/14/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/666,399	Applicant(s) LEUNG ET AL.	
	Examiner Thao X. Le	Art Unit 2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13, 15-33 and 35-41 is/are pending in the application.
- 4a) Of the above claim(s) 1-12 and 20-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13, 15-19, 33 and 35-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 15, 18 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 15, 18 and 19 are indefinite because they depend on canceled claim 13.

For the purpose of examination, assuming claim 15 depends on claim 13.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 13, 15-19, 33, and 36-38 are rejected under 35 U.S.C. 102(b) as being anticipated by US 6329224 to Nguyen.

Regarding claims 13, 33 and 38, Nguyen discloses a method for coating a plurality of semiconductor device or LEDS, comprising: providing a mold with a formation cavity (space between top layer 110 and bottom layer 112), fig. 3, for holding a plurality of semiconductor devices 100/280/393, fig. 3, 9 and 10,, said formation cavity

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at least partially defined by upper 110 and lower 112 sections; mounting a plurality of semiconductor devices 100 within said mold formation cavity directly to at least one of said upper and lower sections, each of said semiconductor devices 100 or 393 being mounted separately within the cavity, fig. 10 or 11; injecting, col. 9 lines 22-25, or otherwise introducing curable coating material or matrix material (encapsulant), column 9 lines 30-35, into said mold to fill said mold formation cavity and at least partially cover said semiconductor devices 100 with coating material; and curing, or otherwise treating said coating material, fig. 4, so that said semiconductor devices (chip or LED, col. 1 line 13 and col. 12 line 62) are at least partially embedded in said cured coating material; and removing said cured or treated coating material with said embedded semiconductor devices from said formation cavity, fig. 4.

Regarding claim 15, Nguyen discloses the method further comprising separating said embedded semiconductor devices 100 so that each is at least partially covered by a layer of said cured or treated coating material, fig. 4 or 12.

Regarding claims 16 and 36, Nguyen discloses the method wherein upper 302 and lower 386 sections provide opposing parallel surface, said semiconductor devices 393 arranged on one or both of said opposing surfaces, fig. 10.

Regarding claims 17 and 37, Nguyen discloses the method claim wherein said curing otherwise treating said semiconductor material comprises one of the methods from the group comprising heat curing, optical curing or room temperature curing, column 10 line 16.

Regarding claim 18, Nguyen discloses the method wherein the semiconductor devices are separated by dicing or scribe and break, col. 14 line 11.

Regarding claim 19, Nguyen discloses the method wherein the semiconductor devices are separated such that the layer of cured or otherwise treated coating material conforms to the shape of the semiconductor device, fig. 4.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 35 and 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over US6329224 to Nguyen in view of US 6252254 to Soules et al.

Regarding claims 35, 39-41, Nguyen discloses the method wherein the matrix material comprises silicon, col. 9 line 32.

But, Nguyen does not disclose the method wherein the matrix material contains uniformly distributes light conversion particles and phosphor light conversion particles.

However, Soules discloses the method wherein the LED, fig. 3, comprises a matrix material 38 contains uniformly distributes light conversion particles, column 6 line 16 and phosphor light conversion particles 34, col. 6 line 62. At the time the invention was made; it would have been obvious to one of ordinary skill in the art to use the encapsulating material contains uniformly distributes light conversion particles and phosphor light conversion particles teaching of Soules with Nguyen's capsulation material, because it would have created a specific LED characteristics such as color and color rendering index, as taught by Soules, column 2 line 27-32 and to reduce optical saturation effects as taught by Soules, col. 7 lines 19-22.

Response to Arguments

8. Applicant's arguments filed 30 Nov. 2006 have been fully considered but they are not persuasive.

a. The Applicant argues that Nguyen discloses the chips are mounted to the tape 86 inside the frame; they are not mounted to either fixture 20 and 22. This is not persuasive because the fixture 20 and 22 are part of the encapsulation fixture

that is being used to inject the encapsulant and to hold the frame that including the top sealing adhesive layer 110 and bottom sealing adhesive layer 112.

Nguyen clearly shows the chip 100 is mounted directly to layer 112.

b. The Applicant argues that Nguyen teaches removing the frames and the microelectronic assemblies from cavity formed by the fixture element after the encapsulant is injected but before the assemblies are heat-treated; the claimed requires treating the devices while they are in the cavity. This is not persuasive because the frames, the top layer and the bottom layer define the cavity of Nguyen, col. 8 lines 20-25, and the cavity holds the device and is injected with the encapsulant. Subsequently, the frame is removed from the encapsulation fixture and is cured in the oven, col. 10 lines 15-20.

c. With respect to the specific device, Nguyen discloses the microelectronic device includes semiconductor chip, col. 1 line 13 and LED, col. 12 line 62.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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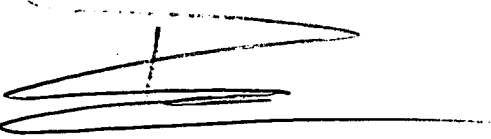
extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao X. Le whose telephone number is (571) 272-1708. The examiner can normally be reached on M-F from 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael M. Fahmy can be reached on (571) 272 -1705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

10 Feb. 2007



THAO X. LE
PRIMARY PATENT EXAMINER